

**Jetstream 31 (J31) Flight Report for INTEX-B/MILAGRO**  
**Flight VER12 flown 18 Mar 2006**

A complete version of this report is posted at  
<http://www.espo.nasa.gov/intex-b/flightplanningJ31.cgi>

Overview

Preflight goals focused on characterizing aerosols and surface albedo at T2 in coordination with Terra and aerosols and BRDF over the Gulf in coordination with Aqua.  
See planned and actual flight tracks in Figures 1 and 2.

Engine on: 1623 UT  
Engine off: 1943 UT

Takeoff: 1644 UT  
Land: 1940 UT

1741 UT Terra overpass  
1908 UT Aqua overpass

Cabin crew: Cumbane, King, Knobelspiesse, Livingston (flight scientist), Pommier, Miguel Ruiz

Pilot Summary

All good.

Discussion of flight

Flight Scientist: Flew to T2 but turned around ~10 nmi before: Ci. Headed to Gulf point: Ci. JJ & Mike picked another point over Gulf for CAR maneuvers. Spiraled down from 18 kft to 250. AOD(520) at bottom 0.16. Spiraled up to 2000'. Did CAR maneuvers. Kirk had calc prin plane direction. Descended to ~150', started horiz leg, heading ~30 deg. Terminated by Ci. Spiraled up to 8500', above most AOD (AOD~0.028). Flew back along same line as low level run in prin plane, heading 194. Then RSP perp line.  
Landed. AOD 0.18.

Instrument Performance & Status

AATS: Performed well. Slow to track on 4 points in spiral, el angle greater than ~70 deg. Similar to previous performance. Planned before-after window cleaning after flight (by Nick).

CAR: Problem at start; computer & inst out of sync. Maybe because of abnormal shutdown yesterday. Up & running after ~40 min. Usable data including clouds. Lots of BRDF meas over Gulf. Interesting cloud-aerosol contrast in SWIR vs visible channels. Normal shutdown.

RSP: No problems. Good meas over Gulf & land—little cloud interference. Got postflight cal

SSFR: Performed very well. Did postflight cal.

POS: No problems.

NavMet: No problems.

Flight Path, Timing, and Measurements (all times UT [VER local +6])

1634 AATS darks

1649 AATS unparked, acquiring good sun data, some scat Ci

1658 No Ci for last few minutes.

CAR not working

1715 Ci ahead

1736 Extensive Ci—turned around—10 nm before T2

Need to allow extra 10-15 min to T2 to get there on time

1827 NNE of VER positioning for spiral down & CAR runs over area

1832 Begin spiral down at 1500?'/min.

Desired low leg leading to RSP: 30 to 35

1848 Bottom of spiral at 250' AOD(520)~0.16

1849? Begin CAR maneuvers

1900 Complete CAR maneuvers; descend to 250'

1904 Begin principal plane run at ZGPS~150' (190450 UT) AOD(520)~0.157

1908 Begin spiral up to 8500' ~ record 2320? Had to cut horiz leg short due to Ci ahead; spikes in AATS data during spiral due to tracking, not Ci.

1915 to 1919: (We are ~20 min from VER) High alt (2.7 km, 8500') horiz run back along princ plane heading ~194

1924 to 192730: RSP perpendicular run; crossed at 192530 UT

1940 Land. AOD(520) at VER 0.18.

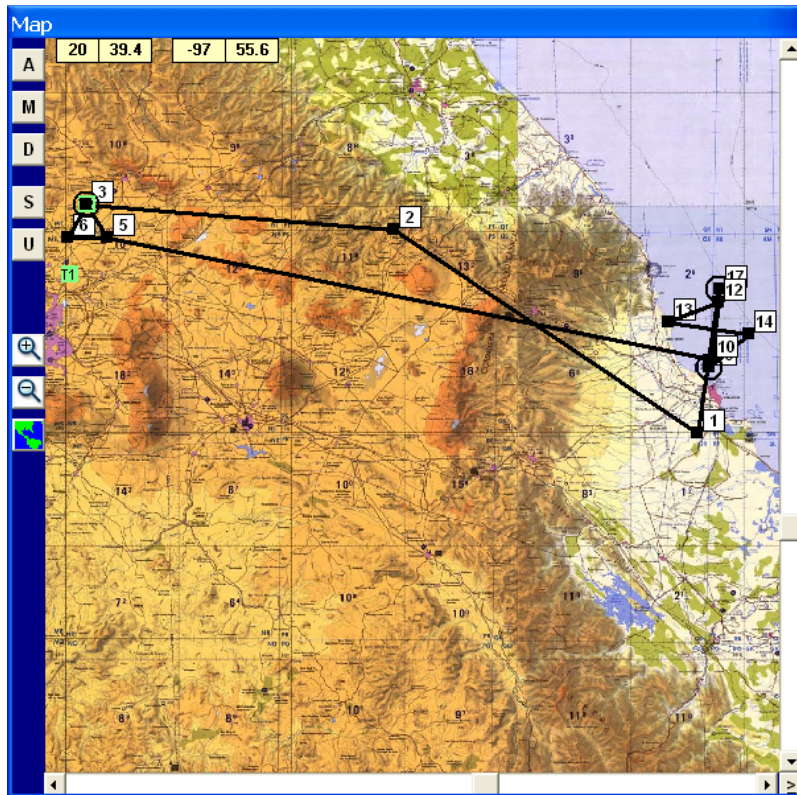


Figure 1. Planned flight track, J31 Flight VER12, 18 March 2006.

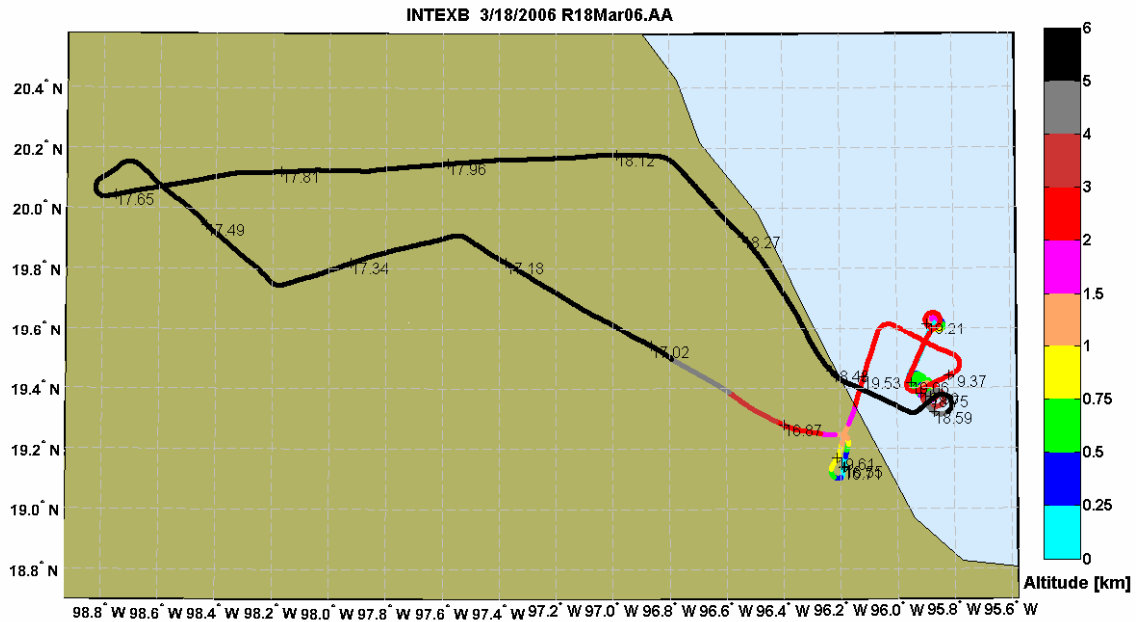


Figure 2. Actual flight track, J31 Flight VER12, flown 18 March 2006.

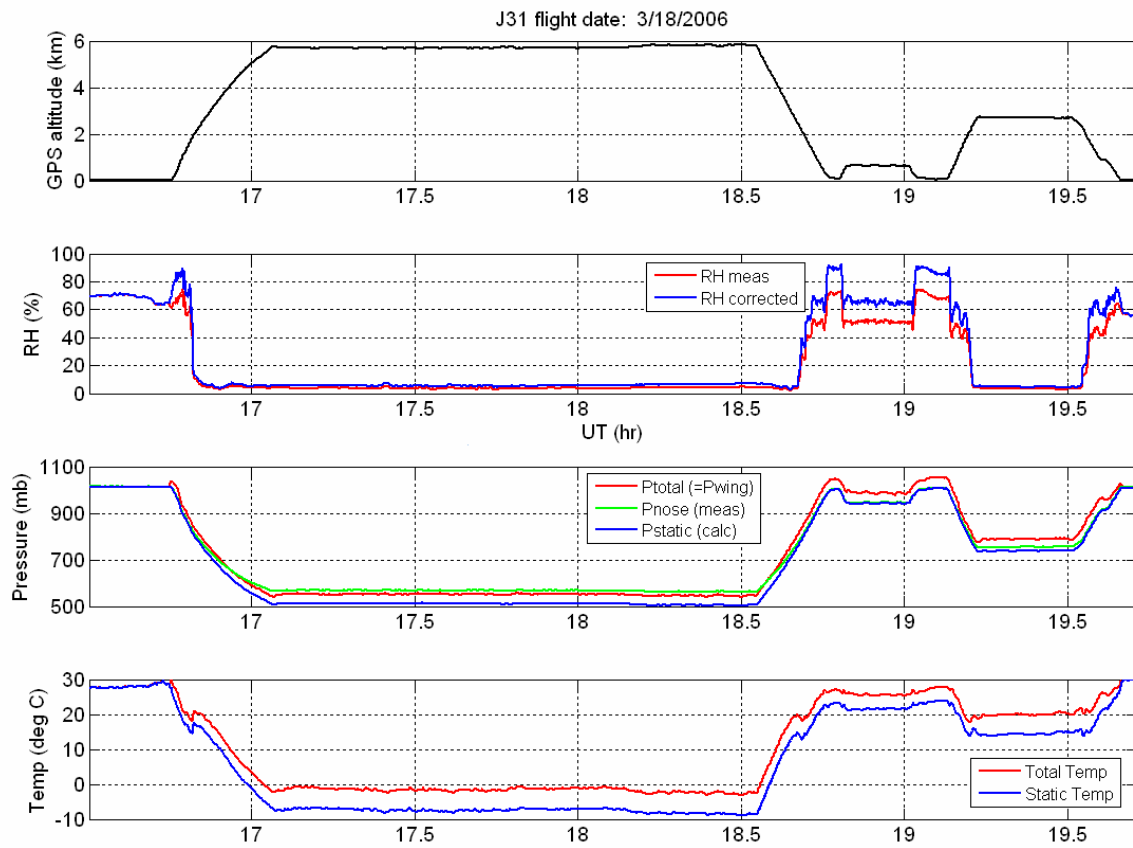


Figure 3. NavMet data, J31 Flight VER12, 18 March 2006.